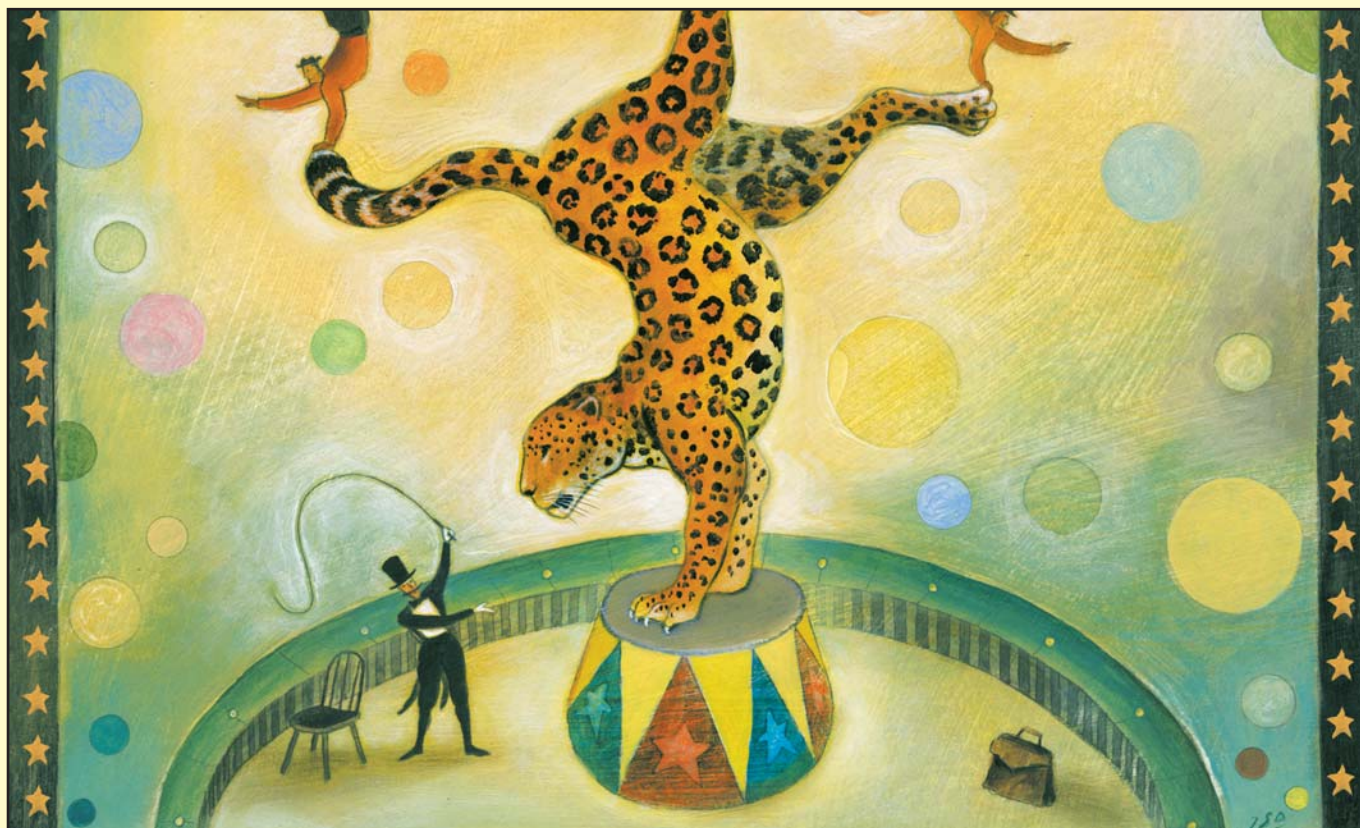


BONUS COLLECTION

Macworld

THE MAC PRODUCT EXPERTS

Power Guide to Mac OS X Jaguar

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MAC OS X

EVOLVES

Apple's Update Takes the Next Step

More than a year after its release, Mac OS X has grown from a curiosity into a full-fledged operating system. Even ardent classic-OS loyalists recognize that the future of the Mac lies in OS X. Apple's latest OS X update—technically Mac OS X 10.2, although it also goes by its original Apple code name of Jaguar—can't be described in mere bug fixes and interface tweaks. It brings new applications, new features, and exciting new technologies to OS X: it's an important step in Mac OS's evolution.

Interface Changes

OS X's interface can evolve in two basic ways: Apple can restore classic Mac OS features or strike off in new interface directions made possible by OS X's power. In Jaguar, we'll get a bit of both.

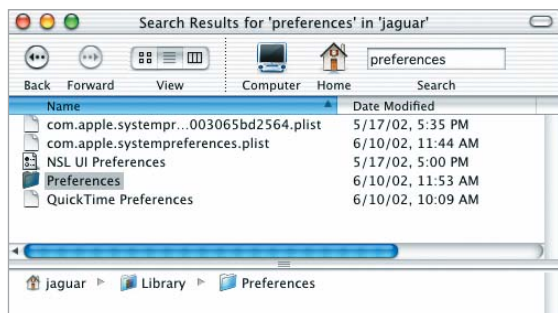
Spring-Loaded With the help of shareware developers, many OS 9 features (including a customizable Apple menu, the application-switching menu, and the ability to windowshade on-screen windows) have already returned to OS X. But some features require OS support that only Apple can provide. One such feature is *spring-loaded folders*, which let you use the Finder to navigate quickly through multiple levels of your hard drive.

Here's how it works: You select an item in the Finder and drag it on top of a folder, without releasing your mouse button. After a brief pause, the folder's window opens, and you can drop the item inside or drag it onto a folder within that window. That process can continue until you reach the most deeply nested folder. You can toggle the feature on and off from the Finder's Preferences window, where you can also set the length of hovering time required before a folder pops open.

Find with Finder Until now, the Finder has been poorly named—it has never been particularly good at finding files. That's not the case with Jaguar, which

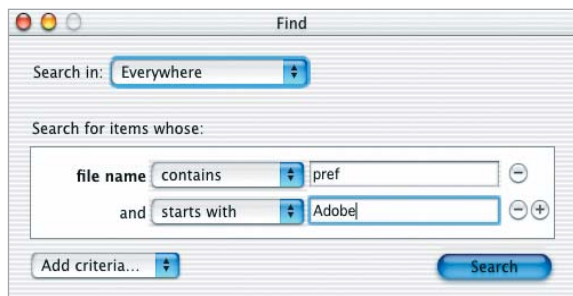
moves file-finding capabilities out of Sherlock and into the Finder.

An early development version of OS X sported a search box built into the Finder's toolbar. This seemed like a



Finder Finds Use the Finder to find files quickly from within a window (above), or do more-detailed searches by choosing Find from the File menu (below).

great idea, but the feature was conspicuously absent when OS X shipped. Now that box is back—just type the name of the file you want, and press return: the Finder searches every folder within the currently selected folder. A list of results appears in the same Finder window. To open an item in the list, double-click on it. You'll find more-powerful search tools behind the Find command (in the File menu), which you can use to search your entire hard drive and to make complicated



searches based on several criteria (see "Finder Finds").

Smarter Dock One of OS X's most polarizing features has been the Dock. Some hail it as an



interface innovation; others think it just gets in the way. If you hate the Dock, beware: it remains in Jaguar—but it looks a little different. It now has a transparent background, and minimized windows appear with the appropriate application icons attached to their lower right corners; you can close those windows from the Dock by control-clicking and choosing Close.

In case you're not a big fan of minimizing windows into the Dock, Jaguar offers an alternative: Minimize In Place, an option in the Dock preference pane. With Minimize In Place selected, clicking on a window's yellow Minimize button reduces the window to icon size but leaves it on your screen. You can drag this small icon where you want it, for temporary storage. (You can also drag minimized windows into and out of the Dock.) Whichever minimizing method is your default, control-clicking on the Minimize button will do the other.

Get Info Returns In OS X 10.0, Get Info's name changed to Show Info. In Jaguar, the Get Info window has returned—with a major face-lift. All the information about your Finder selection is viewable via a series of disclosure triangles (and as many segments as you'd like can be open at once), rather than appearing in parts behind a pop-up-menu interface. And Get Info lets you set permissions for files and folders, although you need an administrator password to change a file's owner or group (see "More Info").

Smaller Touches Jaguar's Finder also offers a few tweaks and improvements on a smaller scale. When you open and close windows, you no longer see rectangular outlines of your window swooshing in and out—instead, the entire contents of the windows zoom in and out, as if they were being minimized or maximized. You can now use the keyboard to navigate through Open and Save dialog boxes. The size of the text in every Finder window is now adjustable. The Finder can generate thumbnail previews of many more file formats. And the green Resize button on Finder windows now works properly when you're resizing a window in Icon view, automatically reducing the window to the smallest size that still displays all your icons.

The Preference Shuffle OS X 10.1 reorganized the placement of icons in the System Preferences application; with Jaguar, there's even more movement, as new preference panes arrive and others depart.



In Jaguar, adjusting user preferences is more straightforward. You don't need the Users pane unless you're creating or removing users (and you have an administrator password). You now drag items that you want to launch automatically at login to the new Login Items pane, formerly a tab within the Users pane. And the new My Account pane lets you alter basic user settings such as your name, picture, and contact information.

Universal Access and Sharing have major updates in Jaguar. Universal Access promises to improve the OS X experience for disabled users (see "Macs without Limits," May 2002). With the help of settings in Universal Access, you can use a few keyboard shortcuts to zoom in and out or invert your screen's colors. And instead of a system beep, a white flash that goes across your entire screen can get your attention.

The Sharing pane's tabbed interface has been overhauled. The Services tab lets you turn OS X's numerous built-in server features (file sharing, FTP, Web sharing, Telnet, printer sharing, and more) on and off.

The Firewall tab finally brings an Apple-supplied interface to OS X's built-in firewall, previously configurable only via shareware programs (see "Share Alike"). The Firewall interface is simple but highly configurable, allowing you to protect custom ports and offering several presets for commonly used networking programs, including Timbuktu and Retrospect.

Other updated panes include Energy Saver, where you can now choose and create preference presets; Network, which helps AirPort-enabled systems to better find a network when they wake up; Classic, which now lets different OS X users use their own OS 9 preferences; and Date And Time, which lets

you turn the 24-hour clock on and off without going to the International pane.

New Software

Jaguar is about more than interface enhancements. As a part of this release, Apple is introducing a new application and providing major updates to existing programs.

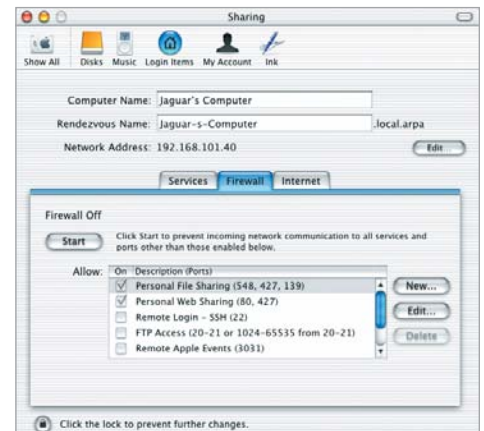
Apple-Style Chat The iChat application is Apple's take on instant messaging. Functionally, iChat is much like AOL Instant Messenger—in fact, they both use AOL's instant-messaging service. But iChat has a highly stylized interface that includes comic strip-style word balloons for message text. In addition to standard buddy lists, iChat shows you everyone on your network who's logged in to iChat—making it easy to send notes to logged-in friends or coworkers, even if you don't know their nicknames or have them in your Buddy List.

The version of iChat we saw certainly delivered in terms of its unique look and approach to live chatting; however, it's unclear whether iChat offers anything that AOL Instant Messenger and shareware programs such as Adium and Fire don't.

Sherlock Reborn With Find features appropriately moved to the Finder, Sherlock has been transformed into a tool that gets information via Web services. Jaguar's Sherlock—which appears to be an entirely new app—works by taking your requests for information and querying Internet servers to find the answers. For example, this version of Sherlock can show you all the movies playing near you, look up words in a dictionary, find someone in the online yellow pages, and even let you track a package.



More Info The Get Info window has been revamped so you can modify file privileges directly.



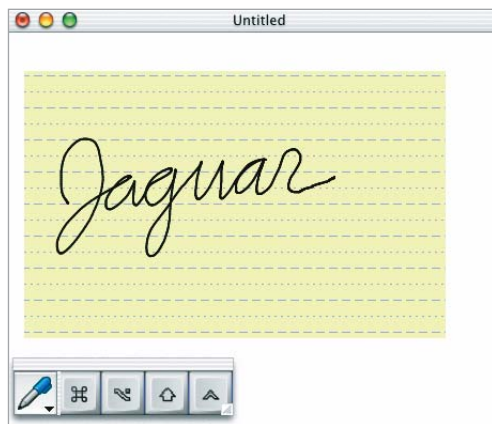
Share Alike Built-in firewall controls are among the new features in the reworked Sharing preference pane.

Personal Database

For years, Mac OS has had a repository of preferences that allows every Internet-using program on your Mac to have a common frame of reference. For example, if you change your e-mail address in your Internet preferences, every program knows about it. With Jaguar, Apple has applied that concept to something a little more touchy-feely than TCP/IP settings: human beings.

The home of Apple's new shared database of information about people is Address Book, a mostly useless program in previous versions of OS X. Now Address Book information is accessible by any program that has been modified to support this new system (see "Address You Up"). Your e-mail program can use the Address Book database to store e-mail addresses, iChat can store screen names, and a contact manager can add addresses and other information.

Keeping a master Address Book means that you don't have to update a person's contact information in multiple places. For example, a college friend might send you an e-mail message containing her new e-mail address and home phone number. After you update that information once on your Mac, it will appear everywhere—even on devices that sync with your Mac, such as Palm organizers and cell phones.—JASON SNELL



Virtual Ink With Inkwell, Newton-style handwriting recognition arrives in Mac OS. But what new Apple hardware will take advantage of this technology?

first version of OS X, Apple introduced Mail, a free e-mail program with a basic set of features. Jaguar brings a new version of Mail with significantly improved functionality. Mail's most promising new feature is perhaps intelligent filtering, which analyzes a message's content and decides whether the message is spam. By default, this feature is set to training mode, meaning that you see all your e-mail and can tell Mail whether a message is in fact spam. Once Mail learns

To be fair, many of these features have existed in various tools before, most notably Karelia Software's \$29 Watson

(www.karelia.com), which provides almost exactly the same search features as the prerelease version of Sherlock we saw.

Remade Mail

In the first version of OS X, Apple introduced Mail, a free e-mail program with a basic set of features. Jaguar brings a new version of Mail with significantly improved functionality. Mail's most promising new feature is perhaps intelligent filtering, which analyzes a message's content and decides whether the message is spam. By default, this feature is set to training mode, meaning that you see all your e-mail and can tell Mail whether a message is in fact spam. Once Mail learns

from your cues to differentiate between spam and valid e-mail, you can switch to the Mail filter's automatic mode, and it will divert spam into a separate mailbox.

Other new features in Mail include more-flexi-

duces several intriguing technologies that promise to take the Mac in new directions. In addition to the new, systemwide Address Book (see "Personal Database"), Jaguar will have a new version of QuickTime (see "QuickTime Beefs It Up with New Codec").

Quartz Extreme You may not notice the new imaging technology that Apple has dubbed Quartz Extreme, but if you've got the required hardware—a recent AGP 2x video card with 32MB of memory—all the graphics on your Mac, including 2-D, 3-D, and video, will be accelerated by your video hardware. Since all video content is run through the single Quartz Extreme pipeline, Jaguar can perform compositing tricks Mac OS could only dream of before. For example, when Quartz Extreme is enabled, DVD video can shine through partially transparent windows and menus, continue to play as it's minimized into the Dock, and even play inside the Dock itself.

Half-Newton When Steve Jobs killed the Newton handheld computer, a lot of handwriting-recognition software—which had gotten pretty sophisticated, despite many people's memories of the device's early days—died with it. Or so we thought. But as Jobs said in May when he unveiled Jaguar, "You'd think spending hundreds of millions of dollars on Newton would get us something." That something turns out to be Inkwell, a new handwriting-recognition technology. Using a graphics tablet and Inkwell, you can turn your handwriting into editable text—a yellow legal-pad window appears as you write (see "Virtual Ink").

Illustrators and designers often have graphics tablets, but many other people probably won't buy a graphics tablet just to get handwriting recognition on their Macs. We assume that Apple has grander plans for Inkwell. Its appearance augurs the appearance of Macs with integrated touch-sensitive screens, or even a tablet-shaped Mac with a pen as its primary interface. With Inkwell, those hardware possibilities are a little closer to reality.

Networking and Security

OS X 10.1 added several features that improved networking and compatibility with Windows PCs. Jaguar



Address You Up

The new Address Book is the center of a master database that lets any OS X app share information about people with any other app.

ble mail rules, the ability to merge multiple accounts into one set of mailboxes, the ability to perform a search across multiple mailboxes, and several security improvements, including support for SSL and Kerberos.

New Technologies

An operating system is more than its interface and collected applications—its underlying technologies often determine how usable it is. With Jaguar, Apple intro-

Networking at Random with Rendezvous

One great asset of AppleTalk networking is that all you need to do to get it working is plug in a bunch of computers. They'll automatically sense one another—without routers, DHCP servers, or any intervention from a networking expert. Apple has long been committed to moving from AppleTalk to TCP/IP, the language of Internet networks—but TCP/IP's inability to create self-configuring networks has been a constant frustration.

Now Apple is a driving force behind ZeroConf, a proposed Internet standard that can create such net-

works. Apple's implementation of that technology, Rendezvous, will debut in Jaguar.

What will Rendezvous mean to you? It may usher in a new era of interoperability, because networked devices will be able to sense the presence of other devices nearby and swap information with them.

At Apple's 2002 Worldwide Developers' Conference, the company demonstrated a Rendezvous-enabled version of iTunes: When a PowerBook running iTunes woke from sleep near a Power Mac,

the PowerBook's iTunes Library appeared in a window on the Power Mac. That Power Mac could browse and play music from the PowerBook, streamed over the network from one Mac to the other.

That's an interesting example, but Rendezvous's killer feature is probably not iTunes sharing, or even iChat's ability to create an automatic Buddy List of iChat users on your local network. With Rendezvous, Apple has developed a framework for on-the-fly data sharing; now it's up to some enterprising programmers to blow us away with Rendezvous's killer app.—JASON SNELL

QuickTime Beefs It Up with New Codec

Also shipping as part of Jaguar is QuickTime 6, the newest version of Apple's media player and authoring environment. The most significant addition in QuickTime 6 is support for MPEG-4, a scalable standard promising higher-quality audio and video at lower bit rates—ideal for streaming and for low-bandwidth devices such as cell phones.

With three main (and competing) multimedia file formats—Real, Windows Media, and QuickTime itself—there have been many complications for viewers and creators. Viewers have been forced to download and use multiple players, and creators have turned to encoding content in multiple formats—and now a new generation of devices, such as PDAs and phones, has complicated things even further. MPEG-4, which is based on the QuickTime file format, is designed to quell that confusion.

Apple's Codec Apple has developed its own MPEG-4 video codec, so other applications that use

QuickTime—such as Final Cut Pro—have instant access to all the benefits of MPEG-4.

You can set Apple's encoder to a target data rate so that, for example, a Web surfer with a 56K modem will automatically receive a file formatted for that narrow bandwidth. You can also choose to encode for higher accuracy or greater speed.

Audio Upgrades The MPEG-4 format also includes a new audio codec, Advanced Audio Coding (AAC). AAC files can be smaller than comparable MP3 files but have better sound quality—closer to that of uncompressed CD audio. With support for multichannel audio, higher audio resolution, and true variable bit rate (VBR), AAC offers many advantages over MP3.

Better Experience Although MPEG-4 is the big news in QuickTime 6, there's more that makes the update faster and easier to use.

Streaming audio and video are good because you don't have to download a complete file before

experiencing the material, but all Internet connections suffer from hiccups that result in awkward pauses and dropped data. QuickTime 6 (when paired with QuickTime Streaming Server 4) includes better skip protection, and Apple's new Instant-On technology means more-immediate playback for broadband users, as well as scrubbing of streaming content as if it were a local file on your hard drive.

New Features QuickTime 6 has plenty of other new features that make it a valuable upgrade. These include a new DVC Pro PAL video codec, support for Macromedia Flash 5, a new JPEG 2000 still-image codec for OS X, and better AppleScript support. MPEG-2 playback is also supported in QuickTime 6, but it will be available only as an add-on, for a fee.

The Best Things Are (Nearly) Free QuickTime 6 Player is free, as are QuickTime Broadcaster and QuickTime Streaming Server. To run QuickTime 6 Pro (\$30) and QuickTime 6 Player, you'll need a PowerPC with at least 32MB of RAM, and OS 8.6 (or later) or OS X 10.1.3 (or later).—TERRI STONE AND JONATHAN SEFF

takes those capabilities one step further and throws in improvements for OS X workgroups, particularly those in the education market. The most interesting new networking technology, Rendezvous, suggests that a whole new generation of ad hoc collaborative networking is just around the corner (see "Networking at Random with Rendezvous").

Cross-Platform Improvements OS X has been able to connect to Windows servers via the standard Windows SMB/CIFS protocols for some time now—but those features have been hidden away and not particularly easy to use. With Jaguar, connecting to a Windows file server is as easy as connecting to a Mac: they all show up in the Finder's Connect To Server window. Even better, when you turn on File Sharing via the Sharing preference pane, your Mac doesn't just offer up your files to Macs—it also runs an SMB server, allowing PCs to connect to your Mac without any special software. With Jaguar, Macs will be able to coexist on PC-dominated networks right out of the box, with no additional software necessary.

VPN Connections If you've ever tried to connect to your office's servers from your Mac at home, you've probably run into the downside of having a company firewall: legitimate users outside the office network are shut out just as effectively as hackers are. The solution is VPN (Virtual Private Network), which allows outside computers to route their network traffic through an encrypted connection to a private office network.

Mac support for VPN has been spotty in both OS 9 and OS X. But with Jaguar, Apple is attempting to natively support the most-common VPN protocols: IPsec and PPTP, which are often used by Microsoft VPN servers.

PPTP support is built into Jaguar via the updated Internet Connect application. Just choose New VPN

Connection from the File menu; type in your PPTP server name, user name, and password; and then click on Connect.

Workgroup Features Some other features that will be of particular interest to administrators of Mac workgroups and computer labs are the reintroduction of the Simple Finder (a simplified version of the Mac interface), the ability to install system software and boot OS X from remote file servers, and the return of USB Printer Sharing, which lets multiple Macs share a single USB printer.

The Last Word

Operating systems that don't evolve risk becoming irrelevant. With Mac OS X, Apple has to carefully balance the addition of innovative features with productivity boosts and bug fixes. Jaguar addresses both needs in exciting ways.

□



The Cat's Out of the Bag

Should You Jump to Jaguar? Read Our Review.

The Mac OS X beta was a preview for hard-core fanatics. OS X 10.0 was not for the faint of heart. And OS X 10.1 was the first version of Apple's new operating system that was ready for everyday use. So what should we make of OS X 10.2—also known as Jaguar—now that it has arrived?

With OS X 10.2's scores of new features and many tweaks to existing features, even OS X's harshest critics have to admit that Apple has sanded off most its new operating system's rough edges. But is OS X 10.2 worth \$129? We reviewed a final version to help you gauge its appeal, whether you're an OS X 10.1 user or an OS 9 stalwart.

Refined, Familiar Interface

Each time Apple updates Mac OS, even minor interface changes are readily apparent—and they often improve your computing experience more than the promised productivity improvements. So while it's fair to say that none of the interface changes in this update are revolutionary, Apple has made several important, though almost imperceptible, refinements.

Drop-down menus, while still slightly transparent, are much more opaque, making them more readable. A pop-up menu in the General preference pane lists four antialiasing algorithms, so you can choose the method of smoothing text that best fits your monitor and, even more important, that is easiest on your eyes. We found that the new LCD-optimized antialiasing settings made text more readable than the single setting offered by previous versions.

Apple's interface designers have toned down the pulsating blue default button in dialog boxes, making its effect subtler. All the Aqua buttons have a flatter appearance, and drop shadows are lighter—a small but noticeable improvement.

Another minor tweak is equally welcome: an Apply To All option makes copying large numbers of files in the Finder easier. It lets you quickly tell the

Finder whether you want to overwrite files or leave them alone; in previous versions, you needed to click on the Replace button once for each file that matched the name of an existing file.

And throughout the operating system, you can more easily access the interface with your keyboard (instead of your mouse). Open and Save dialog boxes can now be sensibly navigated with arrow keys, eliminating one major frustration of previous versions; however, you still can't type a letter to automatically move to a file whose name begins with that character (a feature we used every day in OS 9).

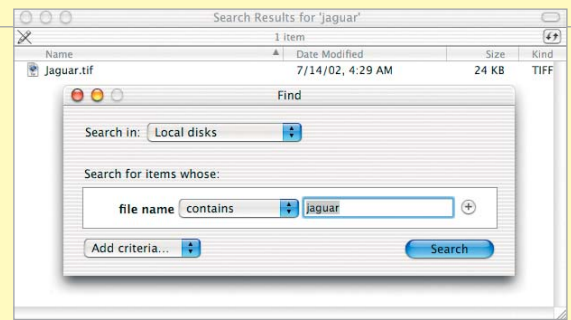
But there are some additions that will no doubt cause a few interface critics to complain—while regular users simply wonder what the fuss is all about. The arrow cursor now casts a slight drop shadow (fortunately, none of the other cursors do—imagine trying to do Adobe Photoshop work while casting shadows on your workspace!), folders open slightly when you drag items over them, and the spinning beach ball cursor you see when your Mac is overtaxed with tasks has turned into a shiny lollipop.

The most ballyhooed interface addition in OS X 10.2 is an old standby from OS 9: spring-loaded folders. While some people never took advantage of this one-drag approach to moving files in the Finder, those who did grew to rely on it and will be grateful for its return.

Tangible Improvements

Beyond the interface niceties, OS X 10.2 offers improvements in functionality and speed.

Quartz Extreme One of OS X 10.2's key features is Quartz Extreme, a concept that can be difficult to



Faster Finds Finding files is fast and easy with the Finder's new searching capabilities, which allow your search parameters to be as complicated or as simple as you need them to be.

understand and even harder to see when you're running the OS. Essentially, Quartz Extreme is a technology that off-loads most of the burden of displaying your Mac's interface to the Mac's dedicated video processor and video RAM. However, this technology works only on systems with an Nvidia GeForce2 MX, GeForce3, GeForce4 Titanium, or GeForce4 MX card (AGP version, not PCI), or ATI AGP Radeon card, with at least 16MB of VRAM. This means that Quartz Extreme will work with all current Mac models, as well as most Macs released in the past year or so.

It's hard to know whether Quartz Extreme is running on your Mac, but you can find out by popping in a DVD movie and then adjusting the volume or pulling down a menu. If you can see through the transparent object to the movie playing behind, your Mac is using Quartz Extreme. Granted, seeing through menus into DVDs isn't much of a feature—but that's not why Quartz Extreme is important. By using your video subsystem to composite all the different objects on your Mac's screen, the technology allows your Mac's main processor and memory to concentrate on other tasks. The result is a system that feels more responsive, especially when it's busy with other tasks. When we had lots of applications open in the background, there were far fewer spinning cursors in OS X 10.2 than there were in OS X 10.1.

Classic Mode Let's be honest: Apple would prefer that there were no such thing as Classic. But the reality is, OS 9 will be with us for some time, running applications that will never be updated to take advantage of OS X. Apple certainly hasn't made any improvements to OS 9 as part of OS X 10.2—after all, Steve Jobs theatrically declared OS 9 development dead, casket and all, at Apple's Worldwide Developers' Conference in May.

In fact, you won't even find an OS 9 CD in OS X 10.2's box, but Apple says that OS 9 will be available separately, for users who upgrade from OS 8.X and require Classic-mode application support. (Of course, if you upgrade, your existing OS 9 system folder will continue to work just fine with OS X 10.2.)

But Apple has made some improvements in Classic. We found that Classic launched noticeably faster in OS X 10.2 than in 10.1—roughly 70 percent faster, in fact. And in case you hesitate to click on a document for fear you'll inadvertently start Classic, a handy new preference option displays a warning dialog box before

10 Reasons to Upgrade

1. **IMPROVED PRINTING ARCHITECTURE** means faster printing, easy printer sharing, and improved compatibility.
2. **NATIVE WINDOWS NETWORKING SUPPORT** means that you can easily share files with Windows users.
3. The **NEW FINDER-BASED FIND COMMAND** lets you search your system faster—and more easily—than you could with Sherlock.
4. There are **SPEED BOOSTS THROUGHOUT OS X**—they will be especially apparent in busy systems that use Quartz Extreme to off-load work to the video card.
5. **CLASSIC MODE STARTS UP FASTER**, and new preferences let you monitor and control it better than ever before.
6. There are **BETTER FILTER AND SEARCH FEATURES** in Mail, which now supports intelligent spam filtering, so you can train it to catch most of your junk mail.
7. **SCANNER SUPPORT IN IMAGE CAPTURE AND TWAIN DRIVER SUPPORT** make scanning in OS X more user friendly (although it still has some kinks).
8. **SPRING-LOADED FOLDERS** and other small changes improve productivity in the Finder.
9. **BUILT-IN INSTANT MESSAGING VIA iCHAT** can dramatically change the way you work, especially with remote coworkers and customers.
10. **NEW APPLE APPLICATIONS**, such as iSync and iCal, will be available only to OS X 10.2 users.

Image-Conscious Cat

Printing and scanning have been troublesome in OS X, though Apple has steadily improved printing as the operating system has evolved. But the many Mac users with complaints should be assuaged by the release of OS X 10.2. We won't all see the complete benefits and fixes the moment we install the update, but many of the holes seem to be well on their way to being filled.

Apple has overhauled OS X's print architecture from top to the bottom. On the surface, the Print dialog box is better organized, with a few new printing features, and the Print Center application is a lot more useful. And Apple has also significantly improved OS X's underlying print engine.

Shares with Others Another important addition is printer sharing, which lets your networked Mac dynamically sense any printers shared by other OS X 10.2 Macs on the same network; it then automatically adds those printers to your printer list. OS 9 had printer sharing, but it was limited to a set of USB-connected printers; OS X 10.2's implementation includes FireWire-connected and networked printers. The latter is especially helpful for AirPort users who might not want to install printers on networks they rarely visit. We used AirPort to connect a laptop to a desktop Power Mac and automatically gained access to a USB printer attached to the desktop Mac.

Organized Interface The main Print Center window now incorporates a customizable toolbar and columns that show useful information—such as location and type—about each installed printer. A Get Info window is now available for each printer, so you can do simple things such as assign a new name or custom page-description file to the printer.

The Print Center's interface isn't perfect. When you have a network printer installed and someone else on the network turns on printer sharing, you'll see the printer twice (or more, if others are sharing as well). Although the OS does shade shared printers to distinguish them from unshared printers, it would be nice if the OS could recognize a printer you'd already set up for your network and list it only once.

The big change to the Print dialog box is the capability to save multiple print settings (earlier

versions let you save only one custom setting). Apple has also moved the Save As PDF option from a pop-up menu to a button at the bottom of the Print dialog box. Another welcome addition is custom paper sizes, which are especially helpful for people who want to fit many images on a piece of costly photo paper.

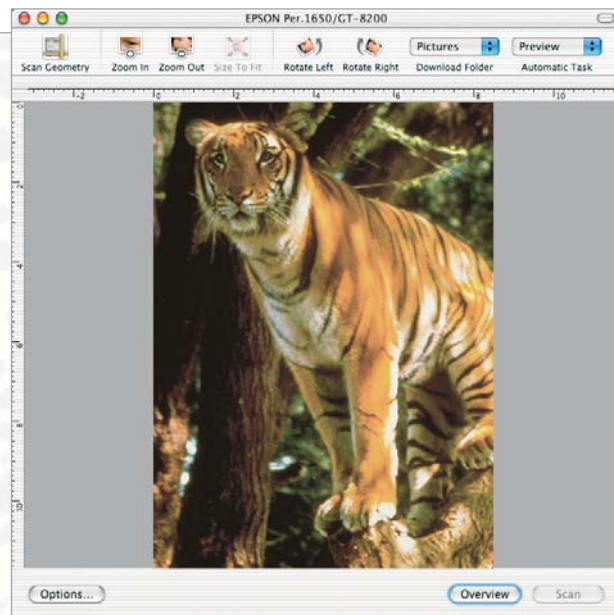
CUPS Revs the Print Engine Under the hood, OS X's printing capabilities are built on a new engine that's based on the open-source Common Unix Printing System (CUPS).

Originally designed to provide high-quality PostScript and raster printing for a wide variety of printers in Unix environments, Apple's adoption of CUPS should mean that printer companies can build and port drivers more quickly and efficiently than was possible in previous versions of OS X.

Apple says that CUPS improves overall print performance. In limited testing with personal USB printers from Epson and Canon, we saw decent, but not huge, speed gains. With networked PostScript printers, however, the speed boosts were significant—pages on an older HP Color LaserJet and a GCC laser printer printed almost instantaneously, something that didn't happen with OS X 10.1.

CUPS will ultimately bring better performance and support for a broader array of printers, including wide-format printers and proofers, which have been among the stumbling blocks for Apple's pro customers. (An Epson representative told us that the company expects to ship OS X drivers for its professional printers late this year.)

Scanning Support Problematic scanning has been a major disappointment in OS X. Out of the box, few scanners have worked in OS X; some scanners worked in Classic mode, while others refused to work at all. This situation has been slowly improving. Epson has beta drivers for many of its scanners available on its Web site, and Canon



Pretty Kitty Jaguar brings better printing and scanning to OS X.

is also getting closer to releasing OS X-native scanner drivers. Many scanner owners have availed themselves of Hamrick Software's VueScan (www.hamrick.com) or LaserSoft's SilverFast (www.silverfast.com), both of which are OS X native and work with a wide variety of scanners. But we don't think anyone who bought a scanner after OS X initially shipped should have to buy additional software to get it to work.

OS X 10.2 should make things better. It includes the latest version of the TWAIN scanning architecture, which will ease the driver transition for many vendors.

Apple has gone one step further with TWAIN, adding scanner support to Image Capture. In theory, Image Capture should now recognize nearly any scanner that is TWAIN compliant (most are), although it failed to recognize the four scanners we tested. At press time, Apple supported 10 scanners from Epson: in the Perfection series, the 1640, 1650, 1660, 2400, and 2450; in the GT series, the 8200, 8300, 8700, 9300, and 9700. We expect this list to grow over time, with interim OS X updates. The problem isn't entirely licked, but a solution is in sight.

If you want to scan in OS X but aren't ready to move to OS X 10.2, don't despair: the beta TWAIN plug-ins from Epson and Canon that we saw worked with OS X 10.1.—RICK LEPAGE

Classic starts up. And the ability to use different OS 9 Preferences folders for different OS X users will be handy for people who share their Mac with others who use Classic.

Working with Windows Out of the box, OS X 10.2 is interoperable with Windows to a remarkable degree. Via the Sharing preference pane, you can share your Mac's files via SMB/CIFS (the standard format for Win-

dows file sharing) and by tried-and-true Mac OS file-sharing methods. And you can now search for and connect to Windows file servers from the Finder, just as you could for Mac file servers in previous versions of OS X. You can also connect to FTP servers from the Finder; the remote servers mount on the desktop like any other remote volume, but access is relatively slow, and you can only read, not write to, mounted FTP volumes. >>

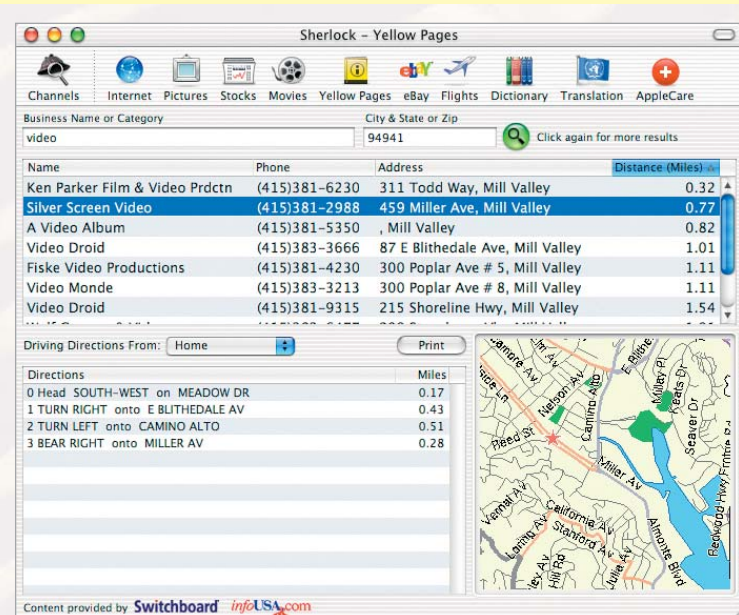
For years, connecting to external ODBC databases has also been a problem on the Mac; finally, with OS X 10.2, Apple has provided a standard method for developers to use when connecting Macs to high-powered network databases.

Printing and Scanning For many professionals (and a few others), OS X printer support has been less than stellar, and for nearly everyone, scanner support has been even worse. Both have gotten a big boost in OS X 10.2, which has a revamped printing engine and expanded TWAIN support. But it will still take a while for third-party vendors to catch up (see “Image-Conscious Cat”).

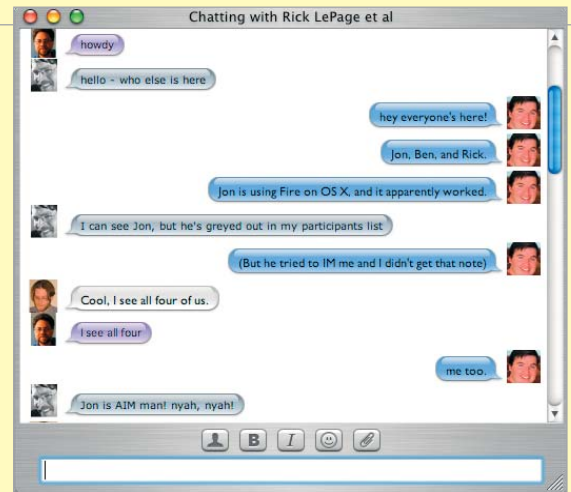
Name Game OS X 10.2's Address Book application is a little bit like an iceberg—what you can see is only a small fraction of what's there. Beneath the surface, this relatively straightforward contact manager has an entirely new Mac OS infrastructure: a shared database that tracks information about people you know. In fact, you may never use the Address Book application, especially once other programs are modified to support the shared database. But the database itself has the potential to eliminate redundant and out-of-date information across your Mac.

Leading the way, Apple has integrated the shared database with its new iChat application and the update to its e-mail program, Mail. iChat uses the database to map real names to AOL and mac.com screen names, so you'll know that the incoming message from pixie95370 is actually from your friend Joe (see “Chat Session”). It's a good idea that will only get better as developers update their programs to support the new system.

Sharing Services In addition to Quartz Extreme, the other OS X 10.2-related technology innovation being



The Searcher In OS X 10.2, Sherlock has been remade as a Web-searching utility that parses Web pages and Internet databases to provide easy access to information, such as the addresses and locations of nearby video stores.



Chat Session By integrating instant messaging into Mac OS, iChat will change the communication habits of many Mac users.

promoted by Apple is Rendezvous, a networking standard that allows devices on a network to dynamically recognize one another. Like Address Book, this is a technology that will require support from software developers to truly blossom. But Apple has thrown a few touches into OS X 10.2 that hint at Rendezvous's potential, most particularly in the iChat application, which doesn't require any special registration with AOL or Apple to allow chatting among people connected to a local network—instead, everything's handled via Rendezvous.

Ink without Paper When you connect a graphics tablet to your Mac, OS X 10.2 activates its Ink handwriting-recognition technology and places an Ink item in your System Preferences. Ink lets you handwrite text directly into any application with an active insertion point. As you write, a sheet of virtual paper displays your handwritten characters, and when you pause, Ink automatically converts your letters to text and inserts them in your document as if you had typed them.

Unlike many handheld devices, which require you to master a special alphabet, Ink recognizes your handwriting. In our tests, it rarely flubbed a word, though it often capitalized letters incorrectly. Ink is clearly not meant to be used as a replacement for the keyboard—instead, it gives Apple a feature that will be required in any keyboard optional “tablet Mac,” should the company decide to compete with tablet-based PCs.

Devil in the Details

OS X 10.2 contains many small improvements. Any combination of them may be enough to make you decide that it's worth its price, but different features will beckon to each user. Here are some of OS X 10.2's most interesting improvements that we haven't previously reported (see “What Else Is in Jaguar” and our related online coverage for more details).

AppleScript Support Apple's useful AppleScript language is better supported in OS X 10.2; a systemwide Scripts menu, previously downloadable from Apple's Web site, is now included when you install the updated OS. Folder Actions—the OS 9 feature that allows

Migrate to Jaguar with a Clean Install

Before you can enjoy the benefits of OS X 10.2, you first need to install it—which may not be as easy as it sounds. Although you can update your existing OS X system to 10.2, you may encounter several problems (including crashing applications) after doing so.

To avoid these problems, we suggest using the installer's new Archive And Install option, which installs a complete version of 10.2 and saves everything from your previous OS X system. (Once you've chosen your destination volume for installation, click on the Options button, select Archive And Install, and then select Preserve Users And Network Settings.) The best part is, this option moves your Users folder—retaining your accounts and settings—and the contents of your Applications folder to the new system. There is still work to be done to get everything back to the way it was; however, we're here to help with the manual labor.

After installation, you'll find the following files and folders left over from your old system in the Previous Systems folder: Applications, etc, Library, mach, mach.sym, System, Users, var, and (possibly) Developer. Even though you'll eventually throw many of these files away, you may want to transfer some to their corresponding locations in OS X 10.2. We'll cover the basics here, which will be enough for most users; for more detailed instructions visit www.macworld.com/2002/10/features/jaguar.html.

During this process, if you attempt to move something and get an error message saying that you don't have the right privileges, you can use the Finder's Show Info command to change them.

Library The Library is the most complex folder to deal with, because of the mix of older Apple-installed files that you don't want to transfer over and newer user- or application-installed files that you do want to move. The OS X 10.2 installer moves the Application Support, iTunes, and PreferencePanels folders, as well as the contents of the Preferences directory, into OS X 10.2's Library folder, so you don't need to worry about those.

However, many applications install other support files in this folder, and other files, such as Contextual Menu plug-ins, browser plug-ins, and Services are installed here for system-wide use. If you don't want to manually reinstall applications, support files, and third-party add-ons from scratch, going through this folder is your only option. Note that because of privilege issues, when you drag files from the archived Library folder to OS X 10.2's Library folder, some files will be copied while others will be moved—this is normal.

The first step is to look for any folders that exist in the archived Library folder but don't exist in the new OS X 10.2 Library folder—you can drag all of these over. Dealing with the rest of the folder is a bit more tedious. You'll need to open the new OS X 10.2 Library folder and the archived Library folder side by side and compare the contents of each subfolder. Folders that exist in the old Library but don't exist in the new one can be moved over—such as Fonts and Internet Plug-Ins. But don't replace files or folders that already exist in the OS X 10.2 folder without first checking the version number and/or creation date of each (use the Finder's Get Info command). A few folders warrant special consideration:

- Don't transfer the contents of the Library: Caches folder from the archived Library to OS X 10.2's Library. OS X 10.2 will recreate these files as needed.
- The contents of the Library: ColorSync: Scripts folder in your archived Library are located in the Library: Scripts: ColorSync folder in OS X 10.2's Library.
- Before you transfer any files from the Library: Printers folder, try setting up your printer in OS X 10.2—there's a good chance that support for your printer already exists. An exception is if you've previously installed Faxstf, in which case you should transfer over the Library: Printers: SmithMicro folder.
- In the Library: Receipts archive, copy over only receipts that were clearly installed by third-party software (for example, Faxstf, IEUpdate, Macally-

Mouse, and WindowsMediaPlayer). If you're unsure about an item, leave it—they aren't vital.

- If you were previously running a Web server off your Mac but using the System's Web directory rather than your user-level Web directory, be sure to transfer any custom contents of Library: Web-Server: Documents.

Applications All of your previously installed applications and utilities have been moved by the installer from this folder to the new Applications folder at the root level of your hard drive (except for older versions of Apple software). The lone exception is if you already moved files or folders inside the AppleScript folder in OS X 10.1; if you did, they will still be inside the archived AppleScript folder, and you will need to manually move them to the new Applications folder.

Users Although the OS X 10.2 installer kindly moves user folders from the archived Users folder to its own Users directory, for some reason the Shared user folder does not get transferred. If you've placed files in the Shared user folder, you'll need to manually move them from the archived Shared folder to the Shared user folder in your new Users directory. (Make sure you copy the *contents* and not the Shared folder.)

Last Steps When you're done, log out and then log back in. You'll need to set up your printer(s) again, but apart from that, there should be minimal additional setup necessary. It's also possible that some of the software you used in OS X 10.1.5 or earlier won't be compatible with OS X 10.2. If one of these applications was previously set up as a login item, it will launch at login just as it did before, which can cause problems. To fix this, you can press the shift key just after the login or start-up screen, and hold it down until the Finder has loaded—this will prevent all login items from loading. You can disable the offending login item and then log out and log back in.

Once your Mac has been running smoothly for a few days, you can delete the Previous Systems folder and its contents.—DAN FRAKES

AppleScripts to run when items are added, removed, or changed in particular folders on your system—is now in OS X 10.2. The interface for Folder Actions is a bit clunky—you must attach the actions via a submenu in the aforementioned Scripts menu, rather than via a contextual menu in the Finder. But when it comes to functionality, Folder Actions are much improved: you don't need to leave a folder open in the Finder for its Folder Action scripts to function, as you did in OS 9.

Stronger Security Apple has made several security improvements. User names and passwords can now be

more than eight characters long—especially useful when you're trying to generate secure but memorable passwords. A new Keychain menu item lets you lock and unlock not only your Keychain but also your entire system: choose Lock Screen, and your Mac will instantly jump to a password-protected screen saver. Likewise, if you're using encrypted disk images created by Apple's Disk Copy utility to store sensitive information on a laptop, when you wake that laptop up, you'll be forced to reenter the secure volume's password.

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Smarter Sherlock Apple revamped Sherlock for OS X 10.2. File-finding features have been transplanted—with excellent results—to the Finder itself, so Sherlock has been transformed into an Internet utility (see “The Searcher”). The new Sherlock can search for Web pages, pictures, stock data, movie information, business addresses, and more. It puts a pleasing interface on information sources available on the Internet, but it’s almost a carbon copy of Karelia Software’s \$29 Watson utility, which offers twice as many search channels, including many services not available in Sherlock. Still, if you’re already planning

to buy OS X 10.2 for other reasons, this fast, free utility is a dramatic improvement on the older Sherlock, which was sluggish and not nearly as useful as this edition.

Slicker System Preferences One area that has been cleaned up nicely is System Preferences; Apple has consolidated and tamed the multitude of preference panes. For instance, the Sharing pane is now more useful, offering the right selection of options for sharing your Mac’s components, as well as a simple interface to the basic firewall built into the OS (and it’s smart enough to know when you have another utility interacting with your firewall).

What Else Is in Jaguar

There are many more new features in OS X 10.2. While we can’t cover them all here, we did discuss a prerelease version of Jaguar in “Mac OS X Evolves” (August 2002). You can read an updated version of that article at www.macworld.com/2002/08/features/osx.html. In the meantime, here’s a quick summary of new and improved features we didn’t cover in this article. And because our earlier analysis of OS X 10.2 was based on a developer’s beta, several features we reported on did not end up in the shipping version—some of them are listed under the “Changes That Weren’t” heading.

Interface Changes

- Minimized items in the Dock have a small “badge” indicating which application they belong to.
- The Get Info window features a new one-window interface and allows you to set permissions and ownership of files and folders.
- Finder windows swoosh in and out when you open and close them.

New Preferences

- There are new Login Items and My Account preference panes for easier customization of your workspace.
- The Universal Access preference makes the Mac compliant with the

U.S. government’s Section 508 standards for people with special needs. Among the new features are the ability to zoom in and out at will, invert the screen, see a visual cue instead of hear a system beep, and have the Mac read text to you as you move your mouse over the screen.

- The Sharing pane lets you turn on services easily, protect yourself with a firewall, and share an Internet connection.

Networking and Security

- Virtual Private Network connections are available via PPTP.
- Simple Finder and application restrictions are suitable for classroom and other restrictive environments.

Changes That Weren’t

- You still cannot minimize windows in place, as small floating icon buttons, or drag minimized icons out of the Dock.
- There is no Digital Hub category in System Preferences; a new CDs & DVDs preference item allows you to choose what your Mac does when you insert blank optical media. Control of other devices has been either omitted or moved into more device-specific applications, such as Image Capture and iTunes.

Compatibility Issues

We ran a slew of OS X–native applications after our switch to OS X 10.2, and for the most part, they worked without a hitch. But we ran into some problems with utilities (including StuffIt Magic Menu, WeatherPop, MacReporter, and MaxMenus) that placed icons in the menu bar or Dock; however, we expect most of the utilities to operate well after they’ve had minor updates.

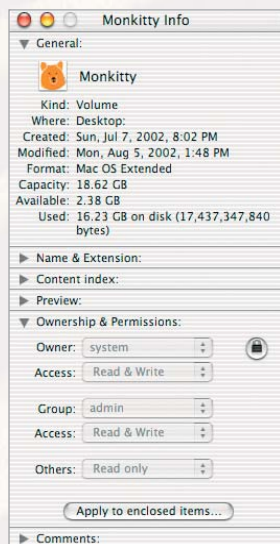
We installed OS X 10.2 in two ways: over existing 10.1 systems and as a clean installation. In most cases, simply installing 10.2 over 10.1 worked—but on a few systems, we had numerous problems, especially with applications that simply would not launch. To be on the safe side, we’d recommend that upgrading users back up their systems and take advantage of OS X 10.2’s new installation option, which archives your previous installation and then installs OS X 10.2. (For tips on migrating to OS X 10.2, see “Migrate to Jaguar with a Clean Install.”)

Macworld’s Buying Advice

OS X 10.2 is no minor OS enhancement; from a feature and performance standpoint, this update to OS X is as significant as OS 9 was to OS 8.

There’s nothing wrong with OS X 10.1.5, and users who don’t want to pay \$129 for OS X 10.2 will be able to function just fine without it. But for most users, there are a lot of important improvements in this upgrade: performance boosts, improved printing, and interface enhancements will be immediate benefits. And over time, OS X 10.2’s new technologies (including Quartz Extreme and Rendezvous) will make the update even more valuable—a necessity for users who want to adopt the latest innovations from Apple and other Mac developers.

If you haven’t yet switched to OS X, there’s never been a better time—OS X 10.2 addresses most of the complaints OS 9 users have about OS X. We recommend that you run it on a Mac with a G4 processor, and you’ll want as much RAM as your system can take, but OS X 10.2 is refined *and* powerful—and it’s worth the move. □



Information, Please The new Get Info window is a big improvement, giving you more information and the ability to modify file permissions with ease.



TAME JAGUAR



BY DAVID POGUE

Overwhelmed by the
Latest Mac OS Update?
Get More Productive
with These OS X 10.2 Tips.

A JAGUAR IS A BIG CAT—fast, powerful, and beautiful to watch. But if you're not careful, it'll have you off balance in the blink of an eye. The same goes for Apple's Jaguar, Mac OS X 10.2.

The latest Mac OS is reportedly loaded with more than 150 new features. At least a few of them are visual touch-ups: the spinning "wait" cursor is fancier, there's a new screen-saver module, and you can now make your desktop picture change automatically at regular intervals. But you didn't shell out \$129 (not to mention the money you paid for your Mac) to stare at your desktop all day.

Fortunately, the new features also include some hum-dinger productivity boosters. Here's a guide to making this wild animal work for you, not against you. (For troubleshooting tips, see "Troubleshooting Jaguar.")

Find It Faster

How much time do you waste rooting around in your folders, trying to find certain files? One of Jaguar's biggest productivity boosts comes from Apple's radical redesign of the way we search. In fact, you now have two different tools for this purpose—and *neither one* is Sherlock. (Sherlock now does nothing but search the Web.)

The Search Bar The Search bar is especially convenient because it's at the top of every Finder window and always ready for action. After 18 years, the Finder has finally earned its name! If you don't see this little round-ended box, make sure your Finder toolbar is visible (press ⌘ -B) and wide enough to expose it. Also, make sure your toolbar isn't in Text Only mode—look under View: Customize Toolbar and double-check the Show pop-up menu.

TROUBLESHOOTING JAGUAR

It's awfully hard to be productive when your computer doesn't work. Here's how to deal with problems you may encounter after upgrading—there are new features that can help.

Soothe Ownership Pains Changes in the Finder's Info window (⌘-I) make it easier to solve one of OS X's most common and frustrating problems: error messages that say, "You do not have sufficient access privileges" (typically, to open, move, or delete a file).

To remove most of these roadblocks, you need to make yourself the file's owner and then enable Read & Write access. (Just remember that some files—such as ones in the System directory—are usually best left alone.) It sounds simple. But how do you make this change?

The Privileges pane in OS X 10.1's Info window listed a file's owner and group assignments, but it provided no way to modify the settings. To do so, you needed to use Terminal or a third-party utility such as XRay (\$10; www.brockhoff.net/xray/). In Jaguar, you can open an item's Get Info window and change its owner there. Click on the Ownership & Permissions triangle and, when the options appear, click on the padlock to unlock access to the needed settings. Finally, from the Owner pop-up menu, change the owner to yourself. You can now also change the owner's access settings here.

Patch Up Permission Problems

Being able to change ownership and access settings from the Get Info window is great—as long as you know which file needs fixing and what the changes should be. This isn't always easy to figure out. For example, if a Type -192 error occurs while you're trying to mount a disk image, you may not immediately think, "Aha! A permissions error." But that's most likely what it is.

Jaguar helps out here, too. Launch Disk Utility (Applications: Utilities) and select the First Aid tab. Then select the current start-up volume. You'll see two new options: Verify Disk Permissions and Repair Disk

Permissions. If you click on the Verify button, First Aid generates a list of permissions errors and what the correct settings should be. Click on the Repair button to fix the errors. You can accomplish a similar feat in OS X 10.1.5 via Apple's Repair Privileges utility (available for download from <http://docs.info.apple.com/article.html?artnum=106900>). This utility restores the default privileges settings of all Apple-installed software. Unlike First Aid, it has no option for viewing changes before they're made. In any case, the current 1.1 version of Repair Privileges doesn't work in Jaguar, so First Aid is the only choice for Jaguar users.

Install without Fear The updated version of the Installer utility in Jaguar resolves an especially irksome issue. Suppose your OS X 10.1.5 start-up volume became so messed up that you wanted to completely reinstall your operating system.

To do this, select the desired volume in the Installer's Select A Destination screen, click on the Options button, and select Archive And Install rather than Upgrade Mac OS X.

Watch Out for Software Conflicts

Jaguar has a lot to offer, but be prepared for numerous software conflicts after you upgrade. Symptoms may include crashes of login items at start-up, application-launch failures, and application features that no longer work as expected. In most cases, you can resolve problems by updating the offending third-party software (usually available from the company's Web site).

Certain items that load at start-up (as listed in the Login Items System Preference pane) are particularly prone to break in Jaguar. For example, Palm's Transport Manager crashed often in my tests. Removing these items from the Login Items list is your best bet until updates are released.

Also, third-party software that adds an item to the right side of the menu bar will no longer work—Apple added a restriction in Jaguar that prevents these from appearing. If you want to override this, install Menu Extra Enabler (free; www.unsanity.com/download.php?product=mee). Using this tool, I was able, for example, to resurrect Aladdin's Magic Menu.

Speed Up Help

Other problems may be caused by files that carried over from OS X 10.1 and now reside in your Home directory (~). For example, if Help Viewer crashes on launch or is unusually slow, try deleting aliases to third-party Help files, as found in ~: Library: Documentation: Help and ~: Library: Preferences: Apple Help Prefs. Also delete the com.apple.help.plist file in ~: Library: Preferences if you have such a file.

Look for Updates

Jaguar may cause problems with some external hardware (such as a CD-RW drive that fails to show up in iTunes or Toast). Problems with SCSI cards and devices are likely. Fixing these conflicts will typically require a driver and/or firmware update from the company. But in some cases, you may need to wait for Apple's next Jaguar update.—TED LANDAU



You get out your OS X Install CD, which most likely contains an older version of OS X. This means that reinstalling will temporarily downgrade you. Even if the Installer permits this "downgrade upgrade" (which it often will not), Apple strongly advises against it, stating that if you need to reinstall an earlier version of OS X, you should choose the erase option in the OS X Installer.

Jaguar's Installer includes a new archive option that will save you from having to erase your drive in such situations. Similar to a "clean reinstall" in OS 9, archiving moves the currently installed software to a folder called Previous Systems. (Once the system is there, you can't boot from it.) Then a completely fresh copy of Jaguar is

To use the Search tool, open the window where you want to search—the tool will look in this window *and* in all the folders it contains. Click in the Search bar, type a few letters of the name of the file or folder you want to find, and then press return or enter.

You can manipulate the list of search results much as you would a list of files in a standard Finder list-view window. For example, you can highlight multiple items simultaneously: highlight all of them by choosing Edit: Select All (⌘-A), highlight individual items by ⌘-clicking on them, drag diagonally to enclose a cluster of found items, and so on. You can even rename something right in this list—click on its name, wait for the renaming box, and type. You can jump to the actual item, wherever it happens to be sitting on your hard drive, by highlighting it in the list and pressing ⌘-R.

You can also manipulate these results as you could in the Sherlock of old: open something by double-clicking, move it by dragging out of the window, copy it by option-dragging out of the window, make an alias of it by ⌘-option-dragging, and so on. If you'd like to repeat the search using a different search phrase, click on the Back button in the toolbar, or press ⌘-[(left bracket), to return to the window where you began.

The Find Command The Search tool is simple, fast, and convenient. But it's not the most powerful search program on earth. It looks only for files' names, not their sizes, dates, and so on. And it can't look for words *inside* your files.

For these purposes, you need OS X's new file-finding tool, Find. To get started, choose File: Find (or press ⌘-F). Specify where you want to search—for instance, Everywhere (on your Mac, network, or connected Internet disks) or Specific Places (drag disk or folder icons into the list or click on Add). Then indicate what you want to find.

The first boxes you'll see—File Name and Content (that is, words inside the files)—are only starting points. In all, Find lets you define a search with as many as eight criteria: name, contents, date modified, date created, visibility, kind, file size, and extension (such as .jpg). To narrow your search, choose from the Add Criteria pop-up menu at the bottom of the Find window. To delete a row from the Find window, click on the – (minus sign) button at the right side of the window.

But that's just the beginning. To the delight of propeller heads around the world, OS X 10.2 introduces AND searches. That is, you can add certain criterion rows (file name, date created, and date modified) to your Find setup *more than once*, for even more-specific searches.

To find files you created between two specific dates, for example, you could set up two "date created" rows, one that specifies the starting date and one for the ending date. Just add one criterion row of the appropriate type, and then click on the + (plus sign) button at its right end. You get a duplicate row. For

Speedy Keyboard Shortcuts

Learning keyboard shortcuts is the best way to steal back minutes of your day *and* protect your arms from repetitive strain injuries. After all, the time you spend reaching for the mouse and clicking through menus adds up. If you do only one thing to make yourself more efficient, pick a few of these shortcuts and commit them to memory.

KEY COMBINATION	RESULT
Start-up Keystrokes	
C	Starts up from a CD.
D	Starts up from the hard disk's first partition.
N	Starts up from the network server.
T	Puts the Mac into FireWire Target Disk mode.
X	Starts up in OS X (if OS 9 is on the same disk).
shift	Prevents start-up items from opening.
option	Shows icons of all start-up disks or partitions, so you can choose one for start-up (older machines: restarts in OS 9).
⌘-option-shift-delete	Starts up from an external drive (or CD).
⌘-V	Shows Unix console messages during start-up.
hold mouse button down	Ejects a stuck CD or DVD.
Finder Keystrokes	
⌘-option-W	Closes all Finder windows.
⌘-up arrow	Opens the parent folder.
⌘-option-shift-up arrow	Selects the desktop.
tab	Selects next item alphabetically.
shift-tab	Selects previous item alphabetically.
⌘-shift-H	Opens your Home folder.
⌘-shift-A	Opens your Applications folder.
option-click on the Minimize button	Minimizes all Finder windows.
General Keystrokes	
⌘-tab	Switches to the next open program—press <i>once</i> and release the ⌘ key to switch to the program you used most recently.
⌘-shift-tab	Switches to the previous open program.
⌘-~ (tilde)	Switches to the next open window in this program.
option-Empty Trash	Empties the Trash without asking, "Are you sure?" (Also nukes locked files.)
⌘-option-D	Hides/shows the Dock.
⌘-click on a Dock icon	Reveals the original item in the Finder.
⌘-option-click on a Dock icon	Switches to this program and hides all others.
⌘-option-H	Hides all windows except the one you're in.
On Keyboards without a Power Key	
control-eject	Brings up the dialog box for shutdown, sleep, or restart.
⌘-control-eject	Forces a restart.
⌘-option-eject	Puts the Mac to sleep.
⌘-control-option-eject	Shuts down.

instance, if you wanted to find notes about your first impressions of Jaguar, you could make one row that looked for files created after August 24 and another that looked for files created before September 1.

Get Informed

Who can fathom the mysteries of Apple's brain? Lo and behold, the Show Info command of OS X 10.1 has morphed back into the Get



Take keyboard shortcuts one step further with CE Software's \$80 QuicKeys X 1.5.3 (800/523-7638, www.cesoft.com). See "Streamline Your Routines," *Secrets*, June 2001, for ideas.

Info command of OS 9—but with some welcome changes that can improve your efficiency.

A Distinguished Panel If you click on an icon and then choose File: Get Info (or control-click on an icon and choose Get Info from the contextual menu), you open a collapsible, multi-panel screen that provides a wealth of information. For example:

- For a disk, you get statistics about its capacity and how much of it is full—a handy gauge that helps you decide whether it might be time for a house-cleaning binge.
- For a document, you get to see when it was created and modified and which programs it “belongs” to—useful when you’re trying to figure out why a JPEG file is opening in OS X’s Preview instead of in Adobe Photoshop, for example.

- If you open the Get Info window when *nothing* is selected, you get information about the desktop itself, including the amount of disk space consumed by everything sitting on it. As a result, you can use the desktop itself as a loading dock for, say, a CD you’re about to burn, using Get Info to make sure you haven’t exceeded its maximum capacity of 650MB.

- If you choose a gaggle of items all at once, the Get Info window shows you precisely how many you highlighted, breaks them down by type (“23 documents, 3 folders”), and totals their file sizes for you. This is a great opportunity to change certain file characteristics on a lot of files at once, such as locking or unlocking them, hiding or showing their filename extensions, changing their ownership or permissions, and so on.

Uniwindow versus Multiwindow In OS X versions 10.0 and 10.1, a single Info window remained on the screen as you clicked on one icon after another. That reduced clutter but didn’t let you compare the folders’ statistics side by side. OS X 10.2 returns to

the old way: a new dialog box appears each time you press ⌘-I.

But the uniwindow approach is still available. Highlight the icon and press ⌘-option-I (or hold down option and choose Show Inspector from the File menu).

Control Classic

However much Steve Jobs would like us to believe that OS 9 is dead, most of us still spend at least some of our lives working in it, either by restarting a Mac in OS 9 or by using an application in OS X’s Classic mode. Fortunately, all of this is much easier in OS X 10.2.

Choose a Specific System

Folder In the dusty days of

OS X 10.1 and earlier, everyone who used a particular Mac had to use the same copy of OS 9 as the basis of the Classic experience. It was just too bad if each user wanted to use

different fonts or to set up preferences in a particular way—they’d have to reset these each time.

In OS X 10.2, you can open the Classic panel of System Preferences and choose any OS 9 System Folder you like. It doesn’t have to be the same one your boss, parent, sibling, or kid uses.

One-Key Switching between 9 and X The prescribed way to switch between systems is only slightly less tiresome than filling out the 1040 tax form: open System Preferences, click on Startup Disk, click on the OS 9 System Folder you want to restart from, click on Restart, and then click on OK. Going back to OS X in the opposite direction is just as tedious.

Fortunately, there’s a brilliant, timesaving shortcut. When you’re in OS 9 and want to restart the machine in OS X, just restart as usual—and hold down the X key. After a couple of screen blinks, you’ll find that the Mac starts up in OS X as usual. (Be forewarned that this trick works only if OS 9 and OS X are on the same hard drive.)

The only downside to the X-key trick is that it’s one-way. You can’t, for example, hold down the 9 key to restart in OS 9—at least not if OS 9 and OS X are on the same drive. If you’ve installed OS 9 and OS X on two different drives or partitions, though, there is a trick that can help.

Make sure OS 9 is on the *first* partition, and leave OS X as the start-up disk. When you want to duck back into OS 9, hold down the D key just after the start-up chime, and your Mac will start up in it. As it



As in older versions of Mac OS, you can press ⌘-tab to move through open programs. But in OS X 10.2, a single press of ⌘-tab instead takes you to the program you used *most recently*. This saves you from ⌘-tabbing your way through all open programs in the Dock just to “get back” to the one you really want.

turns out, the D key tells the Mac to start up from the first internal disk or partition that contains a working System Folder of any type. If it's an OS 9 partition, then that's what you get. To return to OS X, just restart the machine without holding down any keys at all.

There's one more trick that saves time when you're going between OS 9 and OS X if you've installed each operating system on a different disk or partition (it may not work on the oldest OS X-compatible machines, however). Press the option key as the Mac starts up. You'll see the icon of each disk or partition. Click on the one you want (OS 9 or OS X), and then click on the continue arrow.

Look at Things a Different Way

You might not think that some of the cosmetic touch-ups in OS X 10.2 could help you work more efficiently, but think again.

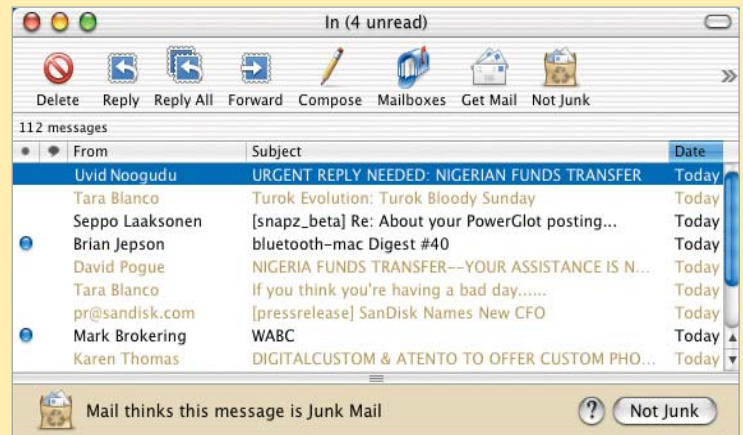
Just Your Type As Apple's screen resolutions go higher and higher, on-screen type gets smaller and smaller. If squinting slows you down, you'll appreciate a feature never before available in Mac OS or Windows: you can now adjust the type size for item names on a window-by-window basis.

Open the window where you want to enlarge (or shrink) the font. Then choose View: Show View Options (or press ⌘-J). At the top of the window, click on either This Window Only or All Windows, and then use the Text Size pop-up menu. Why would you want to adjust the font size in different windows? In crowded list views, you might want smaller type so you can fit more into a single view and thereby avoid scrolling. In windows that are less densely populated, you can afford to make the type easier on the eyes.

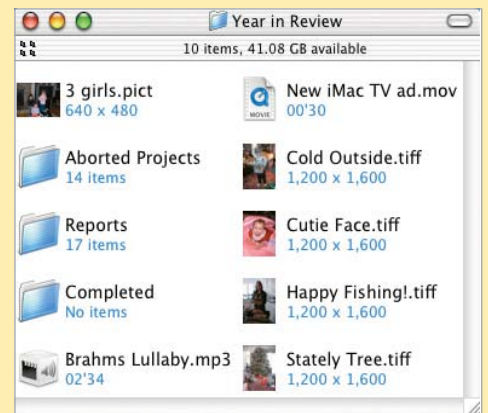
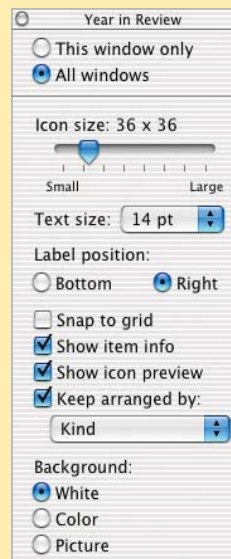
Icons of Your Own OS X 10.2 offers a couple more ways to streamline your desktop. File names can appear *beside* full-size icons rather than beneath them. In effect, you get a multicolumn list view with all the benefits of the icon view, saving you a lot of scrolling and hunting.

Furthermore, folders can now tell you how many files they contain. Also, most graphics files tell you their size, in pixels, and audio and video files can tell you how long they are, in minutes and seconds. Often, that's just enough extra information to help you pick out the right file or folder—and save you a bunch of extra clicks (see “Side by Side”).

To use these options, open an icon-view window. Choose View: Show View Options. Under the Label Position heading, select Right to put the name of each item beside its icon. Then turn on Show Item Info. Next to each icon, a new line of information appears in blue type. It will tell you how many files are inside a folder or give the specs of most graphics, audio, or video files. This trick doesn't work for every file format—for instance, JPEG graphics or Real Audio files. But it does work across a network, even when you're looking at files on a Windows machine.



The Spaminator Train Mail's new antispam feature by flagging messages as Junk or Not Junk during the first weeks of use. When it seems accurate, switch to Automatic mode. That way, these brown-labeled messages won't appear in your in-box at all.



Side by Side Use the new View Options features (left) to summon a line of blue text that identifies the length of an audio or video file, the number of items in a folder, or the dimensions of graphics files in any format except, for some reason, JPEG. (Apple says it's a bug.)

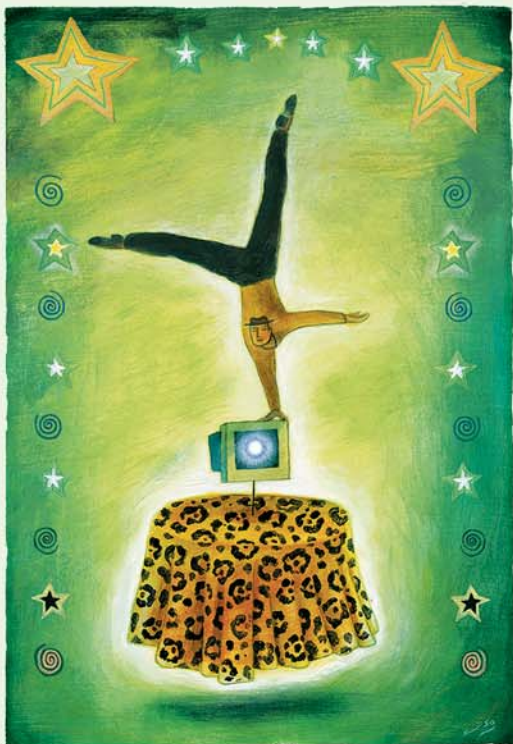
Maximize Apple Mail

Most of us spend much of the day sending and receiving e-mail messages, so any improvements to our e-mail client can add up to a lot of time saved.

Many of the improvements in OS X's built-in Mail program are tiny tweaks: for example, you can control-click on almost anything for a pop-up menu of useful commands, a little orange symbol next to a name lets you know when one of your iChat buddies is online, and Mail remembers the positions of your open windows.



You don't have to leave iChat open to get instant messages or know if buddies are online. Open the iChat preferences and deselect When I Quit iChat, Set My Status To Offline. Now your iChat menu bar will remain active, and you'll stay online even when you quit the program itself.



There's more to OS X 10.2 than meets the eye. Some small tricks don't fit neatly in any category but are useful nonetheless. Here are ten quick Jaguar tips that will make your Mac more productive (or at least more fun to use).

10 QUICK TIPS

1. In OS X 10.2, you can lock your Mac from the menu bar. Just launch Keychain Access (found in the Utilities folder) and select Show Status In Menu Bar from the View menu. To lock your Mac, choose Lock Screen from the Lock menu that appears in the menu bar. Your Mac will instantly display the currently chosen screen saver, which can't be revoked until you enter your login password.
2. To cycle through views in many OS X 10.2 application toolbars (Mail and Preview, for example), command-click on the Toolbar button (the transparent button in the upper right corner of a document window). Once you do, you can cycle through the following toolbar views: Large Icon And Text, Small Icon And Text, Large Icon Only, Small Icon Only, Large Text Only, and Small Text Only.
3. Need to see an Address Book contact's phone number from across the room? Open OS X 10.2's Address Book, select a contact, click and hold on the Phone heading next to the phone number, and select Large Type—the number appears in gigantic type across your screen. To see such large numbers in Calculator, control-click on the total and select Large Type.
4. Don't miss the Calculator utility's impressive productivity boosters. It not only sports a "paper tape," so you can view past calculations, but also performs conversions (via the Convert menu)—including speed, volume, and temperature. It can even convert currency and download the latest currency rates from the Internet—select Convert: Update Currency Exchange Rates. (What happens if you don't have a constant connection to the Internet? Your Mac will dial your ISP if it's configured to do so when an Internet connection is requested.)
5. Do you want to use your scroll-wheel-equipped mouse to move through windows *horizontally* instead of just vertically? Can do—in Finder windows and Microsoft Excel X. Hold down the shift key and move the wheel down to scroll to the right and up to scroll to the left. In Microsoft Word, hold down the control key and scroll to zoom in and out of the document.
6. Place helpful commands at your fingertips by double-clicking on the Script Menu.menu item inside the Application folder's AppleScript folder. Doing so adds an AppleScript menu with more than 70 scripts to OS X 10.2's menu bar. For instance, from here you can attach a script to a drop-box folder that causes an alert to appear each time a coworker adds a new item to that folder.
7. Speaking of AppleScript, you can download even more scripts to add to OS X's Toolbars from www.apple.com/applescript/ toolbar. A particular favorite is the Snapshot script that can memorize and restore a particular Finder window configuration.
8. When is a user not a user? When it's a project. You can easily archive projects in OS X 10.2 by creating a new user, assuming that user identity to create a project—a newsletter or Web site, for example—and then deleting that user. When you do, all the files within that user's folder are placed in a single disk image (.dmg) file inside the Deleted Users folder in OS X's Users folder (Computer: Users: Deleted Users). Should you need these files at a later date, simply double-click on the .dmg file to mount its image and grab the files you need. Yes, you could copy the entire Users folder to archive it, but this is faster and a bit tidier.
9. To take a screen shot of a particular object—an open window or an active menu—press ⌘ -shift-4 and then the spacebar. The cursor will change to a camera. Place it over the object you want to capture (selected objects turn light blue) and click your mouse button. The screen shot is saved as a PDF file on the desktop.
10. And finally, one antiproduktivity tip: Make your OS X 10.2 desktop come alive by replacing your desktop picture with a running screen saver. To do so, open the Screen Effects system preference and choose a screen effect. Open Terminal and type `nice +20 /System/Library/Frameworks/ScreenSaver.framework/Resources/ScreenSaverEngine.app/Contents/MacOS/ScreenSaverEngine -background &`. Then press return to make the active screen saver your desktop picture. When you press return, a number will appear in the Terminal window—it follows [1]. This number is the process you just invoked. To turn off this effect, type `kill` and the process number—`kill 541`, for example. Note that using a screen saver as a background will affect the performance of even the fastest Macs. The `nice +20` portion of the command tells the OS to give its attention to other processes when necessary. For better performance from the effect, don't include `nice +20` in the command.

To see this trick taken to its full potential, use it with the \$22 SereneScreen Marine Aquarium (www.serenescreen.com).—CHRISTOPHER BREEN

Using the Junk Mail Filter But surely the most talked-about item is the new Junk Mail filter. You'll see its effects the very first time you check your messages: a certain swath of message titles appears in color. These are the messages that Mail considers junk.

Your job is to supervise Mail's coloring job. If you get spam that Mail misses, click on the message and then click on the Junk button at the top of its window (or the Junk icon in the toolbar). If Mail flags legitimate mail as spam, swat it gently on the nose and click on the Not Junk button. Over time, Mail filtering should improve (see "The Spaminator").

The only trouble with this so-called Training mode is that you have to trash the spam yourself. Once Mail perfects its filtering skills, choose Mail: Junk Mail: Automatic. From then on, Mail will automatically file spam in a Junk mailbox, where it's easier to scan and delete the messages en masse. (It's never a good idea to send messages directly to the Trash. Legitimate ones could be caught by accident, and you'd never know.) Voilà: the time you used to spend manually deleting messages titled "Make \$1,000 by Salting Crackers in Your Own Home!" is yours again.

By editing the Junk *rule*, or filter, you can make the sieve more or less restrictive. For example, you could click on the + (plus sign) button next to one of the conditions for the junk mail and then choose Account from the new pop-up menu: the filter would apply only to one of your e-mail accounts. To learn more about getting the most out of filters, see "Stop Spam!" *Secrets*, August 2002.

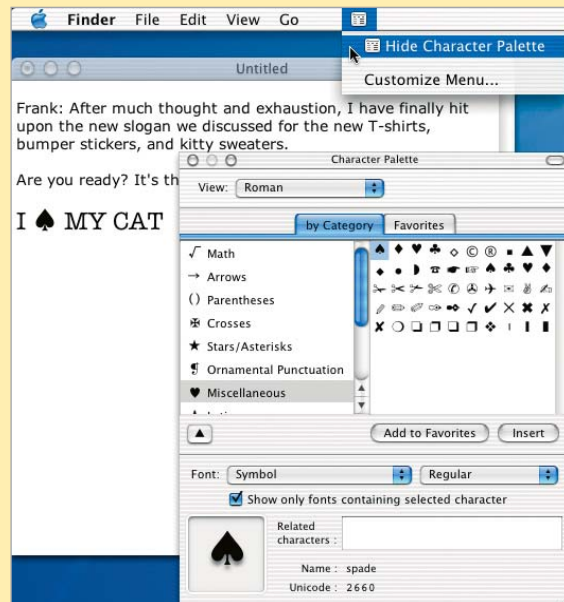
Stop Fumbling for Fonts

You've been hired to design a brilliant new bumper sticker for the ASPCA. With only minutes before the deadline, it hits you: "I ♠ My Cat." Only one thing stands between you and a well-deserved promotion: finding a gosh-darned ♠ symbol.

In the past, you may have gone hunting for the Key Caps program (in the Applications: Utilities folder), but you won't need it as much, thanks to OS X 10.2's Character Palette. To make this palette appear, open System Preferences, click on the International icon, click on the Input Menu tab, and select Character Palette in the list of keyboard layouts. You've just added a new icon to your menu bar.

The next time you're word processing or doing a page layout, choose Show Character Palette from this menu. The resulting window rounds up *all* the symbols from *all* your fonts at once. To find a particular symbol, click on the By Category tab and then click on the various category headings: Arrows, Stars/Asterisks, Math, and so on.

Double-click on a symbol to make it appear in your document. If you want to know what font it came from, click on the black, down-pointing triangle button to see details about it. But the Character Palette is so handy that you may never need to know (see "Symbolism").



Symbolism OS X's new Character Palette, available in every program, once you've turned on the Input menu (top), gives you direct access to every symbol in every symbol font—by category (you can look at regular fonts, too).



Simple Simon Does your Mac need protection from an inexperienced user—or does an inexperienced user need protection from your Mac? Turn on the Use Simple Finder option in the Capabilities dialog box of the Accounts panel (in System Preferences), and create an account with limited access to programs and files. You might want to make Kid Pix available to your six year old, for example, but not Disk Utility.

The Last Word

After loading Jaguar onto your computer, you may think of it as a big and intimidating beast. After all, this version of Mac OS X is filled with new features both large and small—and we've been able to touch on only some of them here. But with just a little knowledge and practice, you'll soon harness Jaguar's power—and enjoy making it purr. □

Contributing Editor DAVID POGUE (www.davidpogue.com) is the author of *Mac OS X: The Missing Manual*, second edition (O'Reilly, 2002), which covers Jaguar 10.2. He also writes the weekly technology column *State of the Art*, for the *New York Times*.